Pneumatic Division
Richland, Michigan 49083

Installation & Service Instructions: V675P

"XM" Series Air Control Valves 1/8" Inline & Subbase, 3/2 & 4/2

ISSUED: March, 2007
Supersedes: None
DOC.# V675P, EN# 061246

⚠ WARNING

To avoid unpredictable system behavior that can cause personal injury and property damage:

- **Disconnect electrical supply (when necessary) before installation, servicing, or conversion.**
- **Disconnect air supply and depressurize all air lines connected to this product before installation, servicing, or conversion.**
- **Operate within the manufacturer's specified pressure, temperature, and other conditions listed in these instructions.**
- **Medium must be moisture-free if ambient temperature is below freezing.**
- **Service according to procedures listed in these instructions.**
- **Installation, service, and conversion of these products must be performed by knowledgeable personnel who understand how pneumatic products are to be applied.**
- **After installation, servicing, or conversion, air and electrical supplies (when necessary) should be connected and the product tested for proper function and leakage. If audible leakage is present, or the product does not operate properly, do not put into use.**
- **Warnings and specifications on the product should not be covered by paint, etc. If masking is not possible, contact your local representative for replacement labels.**

Safety Guide

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Introduction

Follow these instructions when installing, operating or servicing the product.

VALVE IS NOT DESIGNED FOR FIELD SERVICE

Application Limits

These products are intended for use in general purpose compressed air systems only.

Operating Pressure:	**kPa**	**PSIG**	**bar**
Maximum	**850**	**125**	**8.5**
Minimum	**-30**	**-14.7**	**-1**

Ambient Temperature Range: 0°C to 50°C (32°F to 125°F)

Voltage Range: 85-110% of rated voltage. These limits should not be exceeded.

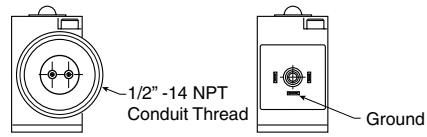
EXCEPTION: The 45 and 49 voltage code rated Valves may be operated at 70-125% of the rated voltage.

⚠ **CAUTION: An interruption of 10 milliseconds or greater to the power supplied to the solenoid of a solenoid operated valve may cause the valve to shift. Provision must be made to prevent power interruption of this duration to avoid unintended, potentially hazardous, consequences.**

⚠ **CAUTION: This valve contains solid state components that can be damaged by transient voltage spikes, over-voltage or high temperature. To protect against premature solenoid failure, please read and adhere to the following:**

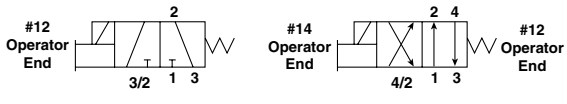
If this solenoid operated valve is used in a circuit with other inductive loads, the solenoid should be electrically protected with a voltage suppression device (e.g. transient voltage suppressor or varistor) that has a minimum rating of 1.6 times the rated voltage of the solenoid valve and sufficient capacity to dissipate the energy of other inductive loads.

Wiring Detail



Conduit Option | **15MM 3-Pin DIN Option** | **Grommet Option**

Symbols



With Flow Control

3-Way Options	**Port No.**		
	1	**2**	**3**
3-Way, Normally Closed	Inlet	Cyl	Exh
3-Way, Normally Open	Exh	Cyl	Inlet
2-Way, Normally Closed	Inlet	Cyl	Plug
2-Way, Normally Open	Plug	Cyl	Inlet
Selector	Inlet	Cyl	Inlet
Diverter	Cyl	Inlet	Cyl

4-Way Options	**Port No.**			
	1	**2**	**3**	**4**
Normal Function	Inlet	Cylinder	Exhaust	Cylinder
4-Way used as 3-Way, NC	Inlet	Plug	Exhaust	Cylinder
4-Way used as 3-Way, NO	Inlet	Cylinder	Exhaust	Plug

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This document and other information from Parker Hannifin Corporation, its subsidiaries and authorized distributors provide product and/or system options for further investigation by users having technical expertise. It is important that you analyze all aspects of your application, including consequences of any failure and review the information concerning the product or systems in the current product catalog. Due to the variety of operating conditions and applications for these products or systems, the user, through its own analysis and testing, is solely responsible for making the final selection of the products and systems and assuring that all performance, safety and warning requirements of the application are met.

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Inline Valve Accessories

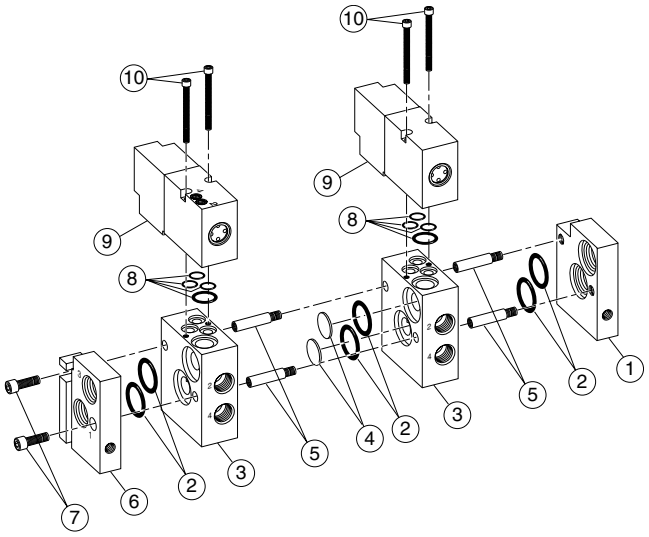
Part Number	Description
PSXM8288P	Mounting Bracket

Electrical Connectors (9.4mm)

Indication	Voltage	Unwired Plug	Plug with 6' Lead
None	N/A	**PESC10**	**PESC12**
LED & Suppression	12/24VDC	**PESC2020B**	**PESC2220B**
	120VAC	**PESC2001F**	**PESC2201F**

Subbase Valve and Manifold Assembly

1. Place o-ring seals (Item 2) into End Cap possessing o-ring grooves (Item 1), and thread spacers (Item 5) into this End Cap.
2. Assemble subbase (Item 3) with O-rings (Item 2) onto spacers using subbase through-holes. Repeat for remaining manifold stations.
3. Place the End Cap (Item 6) without o-ring grooves on last subbase with O-rings.
4. Secure entire assembly with #6-32 x.50-inch screws (Item 7) (supplied with End Cap) and tighten with 7/64 –inch hex drive wrench (not supplied).
5. To assemble valves, place o-rings (Item 8) (four per subbase, supplied with valve, Item 9)) onto the valve mounting surface on the subbase. (Light weight grease assists in maintaining o-ring position during assembly.)
6. Mount Valves to subbase assembly with #3-48 x 1.25 socket head cap screws (Item 10) supplied with valve. Use 6 to 10 in-lb. (.7 to 1.1 Nm) of torque. 4-Way and 3-Way valves are mounted with Solenoids Coils facing away from subbase delivery ports 2 and 4. For 3-Way N.O. Functions, valves must be isolated from the other 3-Way N.C. and 4-Way valves on the manifold. This is achieved by placing port isolator discs (Item 4) in between the subbase of the first 3-Way N.O. Valve and the subbase of the last 3-Way N.C. or 4-Way valve in the Subbase Manifold. Inlet pressure is connected to Port 3 of the manifold for the 3-Way N.O. valves. Inlet pressure is connected to the Port 1 of the manifold for the 3-Way N.C. and 4-Way valves.
7. Test valve for functional operation and for internal and external leakage. If leakage is audible (most likely indicating improper assembly) do not operate – conduct assembly again.

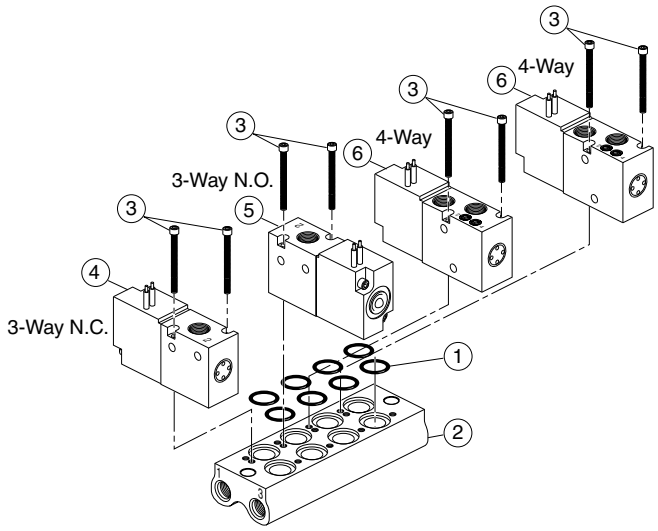


Subbase Valve Accessories

Kit No.	Description
PSXM8100P (Item 10, 8)	Valve to Subbase Bolt Kit
PSXM8310P (Not Shown)	Subbase Blanking Plate Kit
PSXM4900P (Item 4)	Isolation Plugs
PSXM31010P (Item 1, 2, 6, 7)	End Plate Kit (NPT)
PSXM530CP (Item 2, 3, 5)	Manifold Subbase Kit (NPT)

Inline Valve on Inlet / Exhaust Manifold Assembly

1. Install the O-rings (Item 1) in the counterbores on top of the Manifold (Item 2).
2. Place the Valve on the Manifold. For 3-Way N.C. Valve operation (Item 4), line up the Solenoid end of the Valve with Port 1 on the Manifold. For 3-Way N.O. operation (Item 5), line up the Solenoid end of the Valve with Port 3 on the manifold. For 4-Way Valve operation (Item 6), line up the Solenoid end of the Valve with Port 1 on the Manifold. Install the two Socket Head Cap Screws (Item 3) provided and tighten to 6 to 10 in-lb. (.7 to 1.1 Nm) torque using a 5/64 inch hex wrench.
3. When DIN Rail Mounting Bracket is provided, install Screws through the Manifold and secure the DIN Rail Connecting Bracket on both ends of the Manifold.
4. Test valve for functional operation and for internal and external leakage. If leakage is audible (most likely indicating improper assembly) do not operate – conduct assembly again.



Instructions for Converting NC to NO - 3-Way Valves on Existing IEM Manifolds

Remove the 3-Way Valve from the Base. Replace the Valve 180° from the original position for N.C. function. Line up the Solenoid end of the Valve with Port 3 on the manifold. Reinstall the two Screws (Item 3) and tighten 6 to 10 in-lb. (.7 to 1.1 Nm) torque. Turn on air pressure and electrical power source. Test valve for proper functional operation and for internal and external leakage.

IEM Manifold Accessories

Kit No.	Description
PSXM2194P (Not Shown)	IEM Blanking Plate Kit
PSXM2186P (Item 1, 3)	Valve to IEM Mounting Kit (10 O-rings & 10 Bolts / Kit)
PS2190P (Not Shown)	DIN Rail Mounting Kit, Subbase & IEM

Valves can be mounted in any position in most environments, in keeping with specifications. XM valves feature a Class B insulation system and molded coil. Valves should be mounted using the .16, (4.0mm) diameter side mounting holes and #6 (M3.5) mounting screws. The optional mounting bracket consists of a bracket, two #8-32 screws and two captive lockwasher nuts. Mounting bracket adapts to any 3-Way or 4-Way valve on either side of the valve.

Recommended Lubricant

If in-service lubricant is used, Parker F442 oil is recommended. Parker F442 is specially formulated to promote maximum service life of air operated equipment. Other compatible lubricants should be of straight paraffin base mineral oil having a viscosity of 100-200 SSU @ 100°F and an Aniline Point greater than 200°F.

⚠ **CAUTION: Do not use synthetic, reconstituted, or oils with alcohol content or detergent additives.**

Pneumatic Division
Richland, Michigan 49083

Installation & Service Instructions: V676P

"XM" to MicroKing Transition Kits

ISSUED: May, 2007
Supersedes: None
DOC.# V676P, EN# 070400

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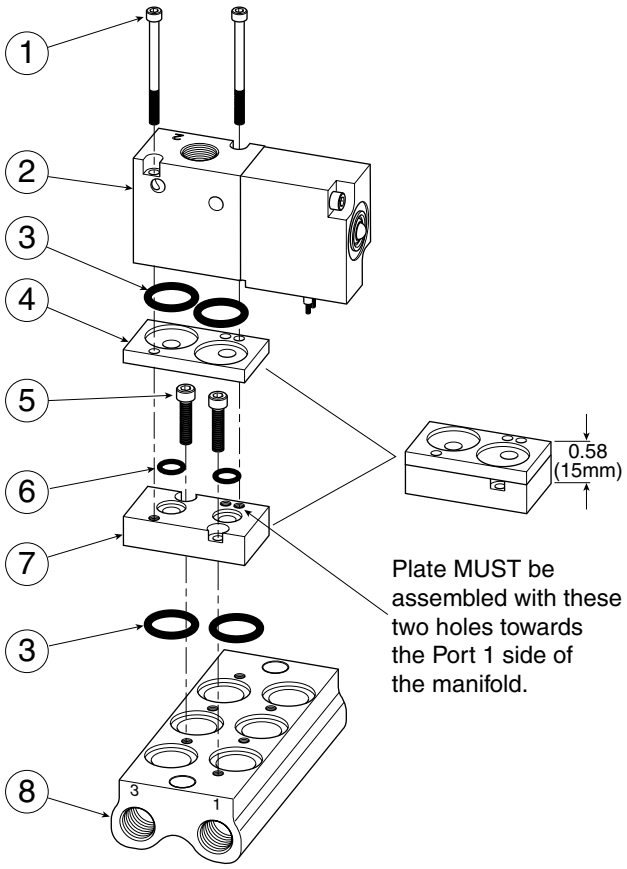
PSXM2190P
Transition Plate Kit
3-Way & 4-Way XM Valves to MicroKing IE Manifold



Item	Description	Quantity	Torque Required
1	Special Valve to Base Mounting Screws, #3-48 x 1-1/2 Long	2	6 to 10 In.Lb. (.7 to 1.1 Nm)
2	XM 3/2 or 4/2 Valve	Not Included in this Kit	
3	O-rings, Transition Plate & Manifold	4	
4	Transition Plate, Top	1	
5	Mounting Screws, Bottom Transition Plate to Base, M3 x 12mm	2	6 to 10 In. Lb. (.7 to 1.1 Nm)
6	O-rings, Transition Plate	2	
7	Transition Plate, Bottom	1	
8	MicroKing IEM	Not Included in this Kit	

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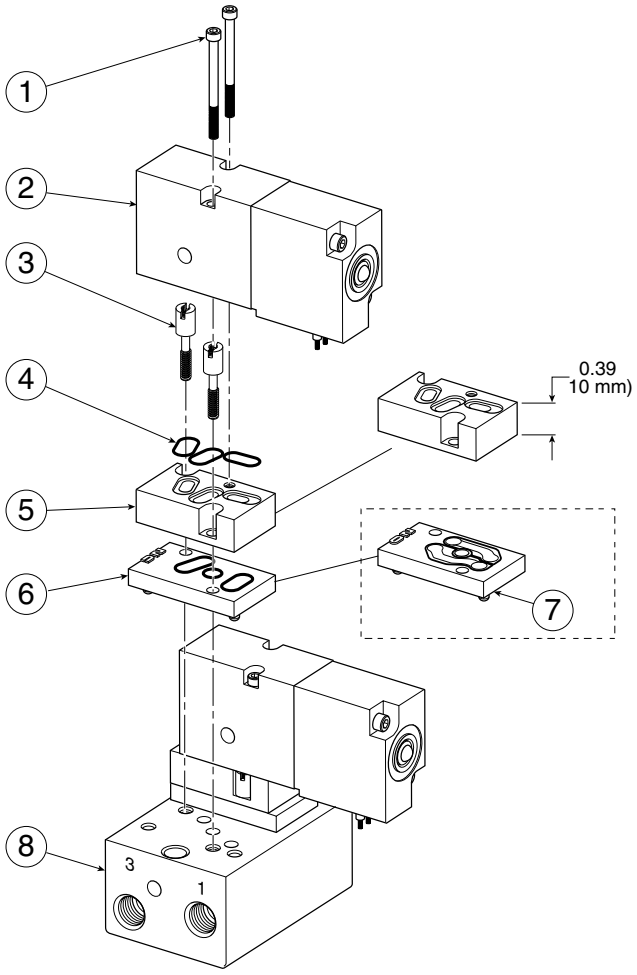
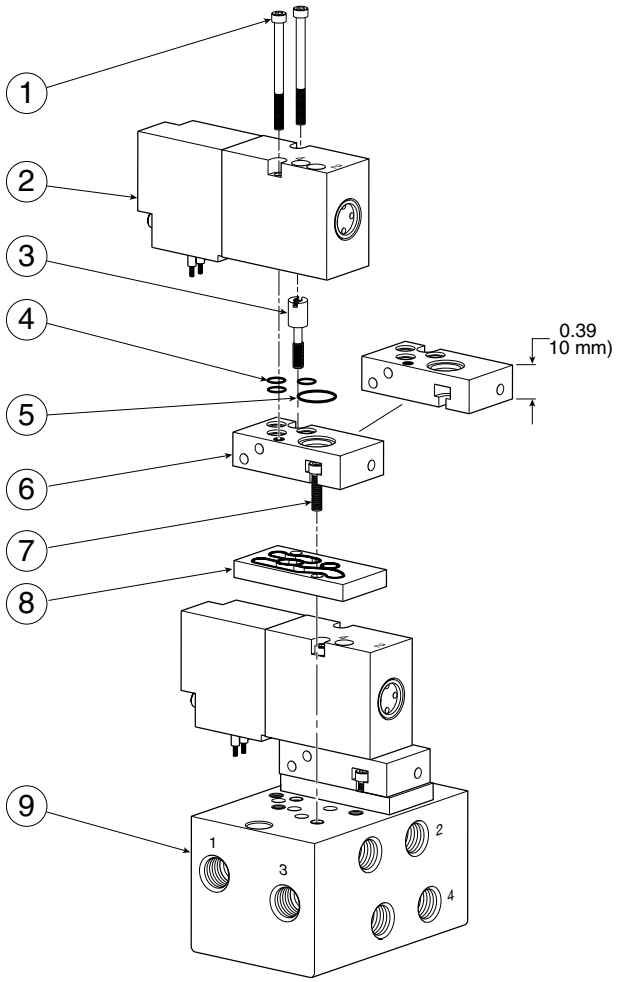
PSXM2191P
Transition Plate Kit
3-Way Subbase XM Valves to MicroKing 3-Way Subbase



Item	Description	Quantity	Torque Required
1	Standard Valve to Base Mounting Screws, #3-48 x 1-1/4 Long	2	6 to 10 In.Lb. (.7 to 1.1 Nm)
2	XM 3/2 Subbase Valve	Not Included in this Kit	
3	Special Male / Female Stud	2	6 to 10 In. Lb. (.7 to 1.1 Nm)
4	O-rings, Transition Plate	3	
5	Transition Plate	1	
6	MicroKing Selector Plate NC (Use if replacing NC Valve)	1	
7	MicroKing Selector Plate NO (Use if replacing NO Valve)	1	
8	MicroKing 3-Way Subbase	Not Included in this Kit	

PSXM2192P
Transition Plate Kit
4-Way XM Subbase Valves to MicroKing 4-Way Subbase



Item	Description	Quantity	Torque Required
1	Standard Valve to Base Mounting Screws, #3-48 x 1-1/4 Long	2	6 to 10 In.Lb. (.7 to 1.1 Nm)
2	XM 4/2 Subbase Valve	Not Included in this Kit	
3	Special Male / Female Stud	1	6 to 10 In. Lb. (.7 to 1.1 Nm)
4	O-rings, Transition Plate to Valve, Small	3	
5	O-rings, Transition Plate to Valve, Large	1	
6	Transition Plate	1	
7	Standard Mounting Screws, M3 x 10mm	1	6 to 10 In. Lb. (.7 to 1.1 Nm)
8	MicroKing 4-Way Selector Plate	1	
9	MicroKing 3-Way Subbase	Not Included in this Kit	